

What Is Claimed Is:

1 1. An apparatus for supporting one or more servers on a single
2 semiconductor chip, comprising:
3 a plurality of first-level translation lookaside buffers on the single
4 semiconductor chip, wherein each first-level translation lookaside buffer is
5 associated with a processor core of a plurality of processor cores on the single
6 semiconductor chip; and
7 a second-level translation lookaside buffer that is coupled to the plurality
8 of first-level translation lookaside buffers;
9 wherein an access to a page table entry in main memory by a processor
10 core associated with a first-level translation lookaside buffer can be stored in the
11 second-level translation lookaside buffer before being forwarded to the first-level
12 translation buffer associated with the processor that requested the page table entry;
13 whereby storing the page table entry in the second-level translation
14 lookaside buffer eliminates a need to refer to main memory to access the same
15 page table entry if another processor requests the same page table entry.